

## SIX-HOUR STASIS.\*

By HOWARD E. RUGGLES, M. D., San Francisco.

A six-hour residue in the stomach is the best evidence we have of pathology somewhere. It is a perfectly definite thing—easily recognized. The normal limits of peristalsis or tone vary widely and it is often impossible to say definitely whether they are pathologic or not, but a residue is evident—whenever it is large enough to be recognized it means trouble. It represents the resultant of forces acting on the stomach contents; it is the balance between peristalsis and the resistance offered by the outlet. Normally tone and peristalsis will have overcome the sphincter and removed two or three ounces of bismuth from the stomach in three to five hours, so a residue means diminished emptying power or increased resistance at the outlet—usually the latter. Of course it is essential that no food be allowed to enter the stomach during the six-hour interval or the bismuth remnants will be mixed with the meal and an apparent residue result.

The commonest cause of a residue is pylorospasm, due most often to the irritation of a peptic ulcer near or upon it, but many other things cause pylorospasm reflexly. As Wm. J. Mayo said recently: "The stomach is the alarm box of the abdomen—the fire is often elsewhere in the peritoneal cavity and the water is too often turned on the alarm box instead of the conflagration." Kaufman, in his presidential address before the Gastroenterological Congress in Washington last year, made the statement that there is no organ in the body, functional or organic disease of which will not eventually affect the stomach.

Cannon in 1905 showed that in cats, after intestinal section and anastomosis, peristalsis went on in the stomach as usual after the introduction of food but the pylorus remained tightly closed for six hours. He also showed that a drop of croton oil in the rectum or cecum caused prolonged gastric and ileal stasis. Some recent work by Baumstach (*Zeitschr. f. phys. Chem.*, 1913, p. 437) has shown that partly fermented mixtures introduced into the small intestine in fistulous animals produced gastric stasis where normal contents did not.

The Roentgenologists have seen a good many of these reflex spasms of the pylorus. George, Case, Barclay and others have seen them in ulcer, gall-bladder, and appendiceal disease, gastric tumors, renal calculi, pelvic affections, tabes, hysteria, hyperthyroidism, morphine and nicotine poisoning and oral sepsis.

At St. Luke's we have had 35 cases of six-hour residue since last fall—11 of them were confirmed by operation or post-mortem, and in 14 others the diagnosis, both clinical and radiological, was reasonably certain.

Of the proven cases there were:

Duodenal ulcer .....	3
Chronic appendix .....	3
Cancer of fundus .....	2
Cancer of pylorus .....	1

Cancer of oesophagus .....	1
Sarcoma of liver (metastatic) .....	1

Including the cases before mentioned the series showed:

	%
Duodenal ulcer .....	30
Cancer of stomach .....	25
Chronic appendix .....	17
Ptosis .....	11

and one case each of gall bladder disease, cancer of the esophagus, sarcoma of liver, benign stenosis of pylorus, partial obstruction of small intestine and morphine poisoning. I have also seen residues with tuberculosis of ileum, lues of stomach and pericolic membranes.

# TABULATION AND DIFFERENTIAL DIAGNOSIS OF LIVER CASES OCCURRING IN THE STANFORD WARDS OF THE CITY AND COUNTY HOSPITAL DURING THE PAST FEW MONTHS.\*

By R. W. HARBAUGH, A. B., M. D., San Francisco.

The differential diagnosis considered in these cases will lie mainly between cirrhosis, lues and malignancy. They may be divided into the following classes:

Primary malignancy, 1 case; secondary malignancy, 3 cases; cirrhosis of liver, 2 cases; lues of liver, 2 cases; cirrhosis with malignancy, 1 case; tropical abscess of liver, 3 cases; passive congestion of liver, many cases.

Case 1. Irish laborer. Age 55. Complaint, "yellow skin, pain across the back." Patient was well up to three months ago. No previous history of stomach trouble or pain. Present illness began with vomiting immediately after eating, and pains in small of back. Became yellow gradually and had stabbing pains in right hypochondriac region. Jaundice cleared up for two weeks, but came back and increased to an intense yellow. Loss of weight was sixty pounds over a period of two months.

Physical Examination: Patient is deeply jaundiced. Liver extends from fourth interspace to four inches below costal border. It is not tender, but hard, firm and nodular. The spleen is palpable. No free fluid. There is a gland the size of a hazel nut, palpable in the right supra clavicular fossa. (Virchow's gland.)

Clinical Tests: 1. Wassermann—negative. 2. Blood—secondary anemia. 3. Urine—contains bilirubin and urobilin. 4. Stools—no occult blood. Bile is present. 5. Stomach—no stasis. No Hcl. Occult blood is present. This patient remained under observation before death. He ran a low-grade temperature. Had no vomiting. Some nocturnal pains, diminishing jaundice, gradual emaciation and ascites two weeks before his death.

Clinical Diagnosis: Primary carcinoma of gall ducts. Based on: Enlarged nodular liver, deep jaundice, Virchow's gland, anemia, cachexia, loss of weight, absence of ascites until late, absence of primary focus.

Differential Diagnosis: 1. Cirrhosis. 2. Secondary malignancy. 3. Lues. (a) Lues is ruled out on a negative Wassermann. (b) Against cirrhosis is the nodular liver. The presence of nodules rules out cirrhosis if they can be distinctly demonstrated as in this case. The late appearance of ascites (two weeks before death) is against cirrhosis. (c) Secondary malignancy is ruled out in the absence of a demonstrable primary focus in this case.

Autopsy Diagnosis: Primary carcinoma of the bile ducts and common duct.

A most interesting point in this case was that

\* Read before the San Francisco County Medical Society, April 7, 1914.

\* Read at the San Francisco County Medical Society, March 3, 1914.